

EDITORIAL

You Are the Perfect Age: An Inquiry into Surgical Ethics during the Arc of a Career

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INTRODUCTION

I have often had a retrospective vision where everything in my past life seems to fall with significance into logical sequence.
—Ansel Adams

There is an old saying that history only makes sense in retrospect. I am sure that I am as susceptible to this adage as any other person. However, I will tell the story of my long history as an amateur medical ethicist, which is, to this day, how I would describe myself. My interest in the ethics of medicine, particularly as these ethical principles apply to interventions or procedures, started at a young age, fairly frequently going to the hospital with my father, a General and Thoracic Surgeon. I think that I found myself agreeing to accompany him, when invited, presuming that doing so would be a chance to spend some time with my dad, who was, throughout my childhood, either a surgical resident or a busy practicing surgeon. I will admit that I probably also figured that, at least late at night on the way home, we would stop by some establishment where we could get burgers and fries.

However, I will start my reminiscences and reflections on these issues with a more recent story, as it prompted me to think back on my perceptions of those experiences of my youth.

THE PERFECT AGE

You are the perfect age. —Mrs. Y., Day 3 after a cardiac operation

Some years ago, I operated on a Mennonite woman who lived on a farm in the Shenandoah Valley in Virginia. Her operation was a fairly routine coronary artery bypass, and she had done quite well. I was rounding with a medical student and a surgical resident when we visited her on the

third day after her operation. She looked as though she had not even had an operation and was in good spirits and quite talkative. After the exchange of some pleasantries, she, out of the clear blue, turned to me and said, “You are the perfect age.” I knew immediately what she meant, but I wanted to have her describe explicitly what she was thinking for the sake of my trainees. The following exchange occurred:

- CT: I think I know what you mean. You think that I am old enough and experienced enough to have been ready to do your operation well, but not so old that I might be “over the hill.”
- Mrs. Y: That is, of course, precisely what I meant.
- CT: Well, if that’s true, then you believe that you have benefited from what I learned on patients that I operated on in prior years.
- Mrs. Y: Yes, yes, I suppose that is true.
- CT: Okay, given that answer, you are acknowledging that I learned something from operating on each of those prior patients.
- Mrs. Y: Well . . . yes. I suppose that is, indeed, what I mean.
- CT: Therefore, you are glad that I am the type of doctor who would learn something from each patient that I care for.
- Mrs. Y: Indeed!
- CT: Okay, if I am that kind of doctor, one who learns from each patient, then, by definition, it is likely that I learned something from your operation. Is that all right with you?
- Mrs. Y (after a pensive pause): Yes, I suppose that is okay . . . as long as it wasn’t much!

So, there we had it. Our patients expect that we are always learning and getting better, at least up to a point. However, they instinctively prefer that we not learn too much on them. I turned to my trainees and said, “I can

This essay is based on the Edmund Pellegrino Lecture in Medical Ethics, delivered in 2010 at the Kennedy Institute of Ethics at Georgetown University.

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summarize what Mrs. Y has just said fairly simply, by paraphrasing a fairly well-known political statement: ‘It’s the increment, stupid.’ ”

During my years of thinking about medical and surgical ethics, I have come to realize, as illustrated by this conversation, that the basis of these ethical principles in medicine is defined not entirely by us, the practitioners, but, at least to some degree, by our public: our patients and their families. When one contemplates this concept, it is worth noting that the ethics of various societies have, throughout history, depended on the traditions, mores, and beliefs that were current in those societies at the time. We all know that there have been dramatic differences in these traditions in various societies throughout history. But, Mrs. Y seemed to have summarized, after being questioned, the philosophy of most in our current society. Our patients expect us to be constantly learning, improving, examining, and sharing the lessons learned, but they do expect that the amount of improvement, on balance, will not be too great on any given case, especially their own.

Furthermore, our patients also understand that they will benefit from all prior patients cared for by their physicians or surgeons (Figures 1 and 2).

In other words, our patients and our public understand that nothing is perfect, which, to be explicit, means that they do believe that this inevitable lack of perfection imposes 3 requirements on us, their health care providers, and, even more specifically, on those who perform procedures. Those requirements include:

- Proper preparation, including appropriate education and training
- Careful management of the increments of improvements
- Constant analysis of our results to learn and to foster continuous improvement

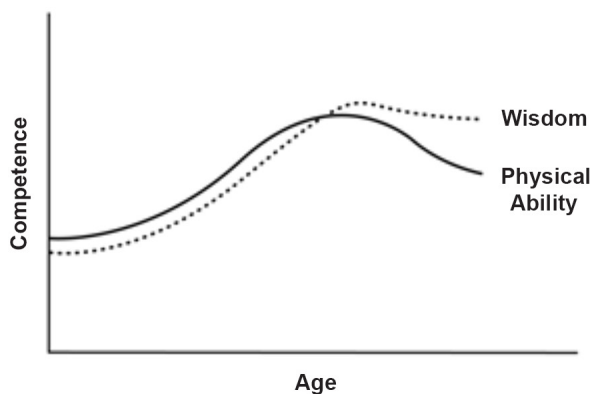


Figure 1. The perfect age.

My understanding of these requirements or principles has evolved, gradually, throughout my life in medicine, which, as noted earlier, started at an early age.

EARLY RUMINATIONS: GRAMMAR SCHOOL DAYS

In every adult there dwells the child that was, and in every child there lies the adult that will be. —John Connolly, *The Book of Lost Things*

As I reflect on my own ruminations about the ethics of medicine and surgery over the majority of my life, I recall that my interest in and concerns about such issues started when I was quite young. One of my first recollections of thinking about these issues was related to an emergency operation in which I participated. One early fall afternoon, when I was 10 years old, my dad and I had gone to watch the University of South Carolina Gamecocks, with their star quarterback, Dan Reeves, play the University of Georgia Bulldogs. When Dan Reeves broke his leg late in that game, we knew the Gamecocks were doomed, so we left early to beat the postgame traffic. On our way home, my dad was notified that a victim of a knife attack had arrived in the emergency room. So, we headed straight to the hospital. We made our way into the emergency room and learned that the patient had been stabbed in the left chest. The patient arrived just as we arrived, and my dad performed an emergency thoracotomy, which relieved the pericardial tamponade and restored a relatively normal blood pressure. There was a small injury to the anterior wall of the right ventricle. The emergency room nurses put a mask and gloves on me, and I was told to hold a finger on the hole in the heart, though it was not actually bleeding all that much, as I recall. I rode on the stretcher up to the operating room, where my dad and the operating room team were preparing for the operation. I

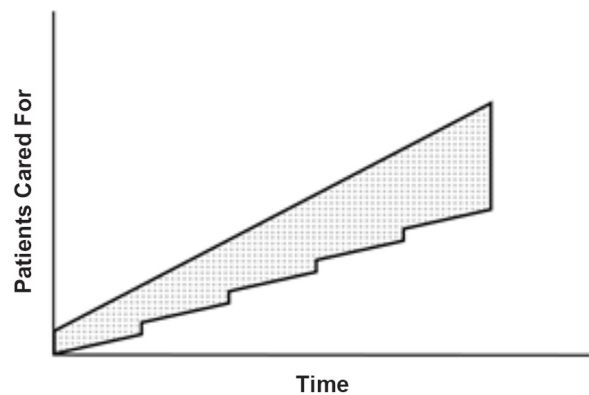


Figure 2. Patients treated over a career..

scrubbed and put on a gown and gloves (processes with which I was familiar from other times I had been in the operating room). The small hole in the right ventricle was expeditiously repaired, and, as I was told later, the patient made an uneventful recovery.

On the one hand, I did not think this experience was all that unusual, being oblivious to the fact that I was almost certainly the only 10-year-old kid in America who was involved in such a scenario that day. While this experience was likely the most dramatic case in which I was involved as a young person, it was actually just one of many experiences in the operating room that I had while growing up.

However, those experiences seemed, especially in retrospect, not to have inspired me to think that I should, or even could, do what I saw my dad, and the many health care providers to whom I was exposed, doing on a day-to-day basis. Looking back on those times, I recall thinking, probably rather vaguely, that all of these professionals were extremely proficient and, it seemed to me, made few, if any, mistakes. On the other hand, my observations about my own capacities suggested to me that I was very unlikely to ever achieve that kind of flawless, or, at least, nearly flawless, performance. Specifically, I found myself being frequently chastised by my math teachers for careless errors on math tests, and, while doing my best to practice and play basketball, having my coaches frequently be “in my grill” about analogous mental lapses. Therefore, as an amateur “medical ethicist,” I ended up concluding that I probably did not have the capacity that those health care providers had and that I should not be considering a career in medicine or surgery.

However, I did grow up learning how to do a lot of things, ranging from blowing up rocks and driving bulldozers, while working for the local power company, to cutting glass in a lumberyard and becoming a pretty fair shade tree mechanic working on my cars. These experiences did, of course, facilitate my becoming confident that I could learn how to do a lot of different things, some of them complex and even potentially dangerous. Still, the idea of becoming a doctor, and especially the idea of becoming a surgeon, did not enter my conscious thoughts, at least as far as I can recall. I just did not think that I was “perfect enough” to even consider such things.

SUBSEQUENT REFLECTIONS: COLLEGE, MEDICAL SCHOOL, AND RESIDENCY

Any physician who goes beyond technique to contemplate the human object of his ministrations . . . must turn to the humanities for those meanings which medical sciences alone cannot give.

—Edmund Pellegrino, MD

After high school, I headed off to college without a clear vision of what I would study or what my future career options might be. Specifically, though I did sign up for math and science classes as I started into my college curriculum, I was still not at all sure that medicine, or especially surgery, would be appropriate, given my lingering doubts about whether I actually had the capacity to be involved in a realm that seemed to require perfection or at least something approaching perfection. I found myself heading towards majoring in English, thinking that I likely did

have the capacity to be a teacher, as many in my family had been. And, given that I had always loved basketball, I thought I might also be a high school basketball coach. However, in one of my relatively early literature classes, we read *The Plague* by Albert Camus. This novel tells the story of a physician who chooses to stay in a city quarantined because of an outbreak of the bubonic plague. That book changed my focus, as I concluded that I was, at the very least, capable of being that kind of doctor. So, my decision to go into medicine was set at that point. Although it would be many years before I encountered Dr. Edmund Pellegrino, perhaps the best known American medical ethicist of his generation, it occurred to me in retrospect that his assertion that the humanities can give meaning to a career in medicine was, indeed, a valid one. I did successfully complete the prerequisites for medical school, while also completing the requirements for a major in English, and, despite the apparent misgivings of the admissions committee at the medical school I would attend, I was admitted to medical school. However, I have never regretted my perseverance in graduating from college as an English major.

During the subsequent years of medical school and surgical residency, I found myself thinking more and more about the ethics of medicine and surgery, despite the fact that there were no courses on medical ethics or even any medical ethicists on the faculty at my medical school and despite the fact there were no medical ethicists at the institution where I completed my surgical training. In fact, at the midpoint of my surgical training, in 1983, only 1% of the hospitals in the United States even had ethics committees.

CONTEMPLATIONS ON MEDICAL ETHICS: EARLY FACULTY TENURE

When I completed my surgical training in the mid-1980s, I was asked to join the faculty at my institution, and in short order I had somehow agreed to become the Program Director for the General Surgery Residency and the Director of the Surgery Clerkship for our third-year medical students. During this time, I was, of course, also trying to navigate the “lurch” from being a resident to becoming a faculty surgeon.

In order to enhance my ability to organize and optimize the educational programs I was running, I sought out experts around the university from whom I could learn, from faculty in the business school to faculty in the School of Education, including those who ran a graduate program in Sports Psychology. This era was also the time of the beginning of the HIV/AIDS epidemic, which was accompanied by many ethical challenges, of course. These challenges were called into sharp focus when one of our favorite intensive care unit nurses and one of our surgical residents were diagnosed with HIV/AIDS, in the setting of having no known risk factors, other than being involved in the care of sick surgical patients and the frequent transfusion of blood products.

Around this time, my institution, the University of Virginia, hired its first full-time medical ethicist, Dr. John Fletcher. I sought Dr. Fletcher’s counsel as we dealt with the ethical challenges of those days. However, most of the ethical issues being discussed in that era involved end of life issues, informed consent, conflicts of interest, futile medical care, allocation of scarce

resources, ethical issues in transplantation, and research issues. In other words, the medical ethics of that era were focused on **medical** ethics, while there was little attention being paid to ethical issues that were specific to the practice of surgery [Fletcher 2005]. And, this reality prompted me to continue to search for more clear-cut principles of medical ethics in the realm of surgery and other procedural interventions.

In addition to my efforts to delve into these relatively philosophical issues, I, of course, understood the important principles of both preparation and reflection in the day-to-day practice of performing surgery and of teaching this craft to students and residents (“Practical Minded Obsession,” “In Your Own Words,” “A Shift to the Left”) [Tribble 2016a; Tribble 2016c; Tribble 2017, respectively].

10,000 HOURS: MIDCAREER REFLECTIONS

It isn't reasonable to ask that we achieve perfection. What is reasonable is to ask that we never cease to aim for it.

—Atul Gawande, MD

At what point does one become an expert? Eric Ericsson famously proposed that one becomes an expert in most realms, from music to sports, and even in medicine and surgery, after 10,000 hours or 10 years of focused, deliberate, committed practice [Ericsson 1993]. This concept was reintroduced by Malcolm Gladwell many years later in one of his well-known books, *Outliers* [Gladwell 2008]. However, it is also true that most “learning curves” are more complicated than many realize (Figures 3 and 4).

What counts towards those 10,000 hours? Medical school? Residency? Experience? If one counts the time spent in training in surgery and cardiothoracic surgery, and the first 3 to 5 years in practice, which are typically described as the steepest learning curve in a surgeon's career, the total time of “deliberate practice” is a bit more than Ericsson's 10 years. However, most would agree that a surgeon will continue to accrue wisdom, knowledge, and experience long after that point. In fact, it is easy to imagine that this ongoing accumulation of experience will add continuously to

the level of expertise of a surgeon, barring some physical, mental, or psychological deterioration. Still, as one progresses through a career, each practitioner must continue to learn from each and every case and to continuously evaluate his or her outcomes.

In healthcare, one succeeds by accepting change and one benefits from being skeptical and asking questions. Question what you believe more than anything else and remember not to confuse what you believe with what you know. —Otis Brawley, President of the American Cancer Society

In 1995, as I was nearing the end of my first decade in practice, the President of the American Association for Thoracic Surgery (AATS), Dr. Robert Wallace, invited Dr. Edmund Pellegrino, one of his faculty colleagues at Georgetown University, to be the Invited Lecturer for the annual AATS meeting, which was held in Boston that year. Dr. Pellegrino delivered an excellent review of medical ethics in his presentation. One concept, in particular, that Dr. Pellegrino introduced in his address caught my ear, which was a principle he described as “collective advocacy” or “collective responsibility.” I wondered if this concept might be a way of describing my sense of the ethical principles related to the inevitable accumulation of knowledge and wisdom through experience with many patients over the span of a surgical career.

After hearing that lecture, I employed a strategy that I had found fruitful in the past, which was to write Dr. Pellegrino a letter, with hopes of learning more from him. He graciously replied to my inquiry, though he said that he was not sure that my attempt to apply his concept of “collective advocacy” to thinking about the ethics of surgery was optimal, as he said that he viewed that concept as pertaining more to public health issues than to thinking about individual patients. However, we continued our dialog about that concept for many years after those early exchanges.

Perhaps as good a summary of the ethics of surgery as was available in this era was provided by Atul Gawande in an essay in the *New Yorker* in 1999, in which he noted that “no matter what measures are taken, doctors will sometimes falter, and it isn't reasonable to ask that we achieve perfection. What is reasonable is to ask that we never cease to aim for it” [Gawande 1999].

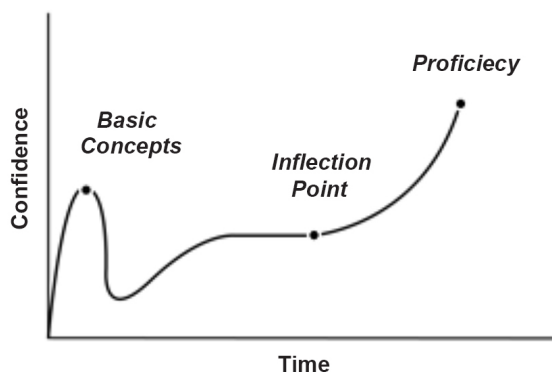


Figure 3. The Dunning-Kruger effect.

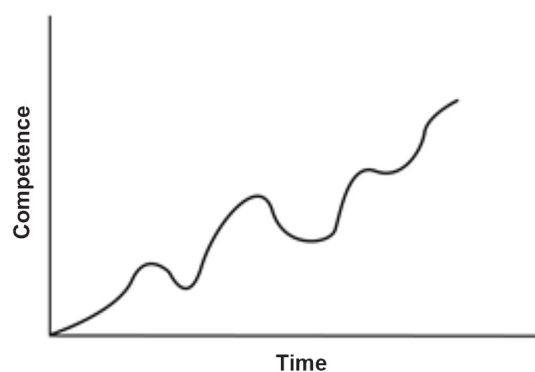


Figure 4. The learning curve.

During this time, some more explicit ruminations on ethical considerations in the realm of surgery did gradually become available, such as the book *Surgical Ethics*, edited by Laurence McCullough, James Jones, and Baruch Brody, published in 1998, and the Surgical Ethics Challenges presented by these authors and published regularly in the *Journal of Vascular Surgery* (and eventually collected in *The Ethics of Surgical Practice*, which was published in 2008). Almost another 10 years would pass before another book on surgical ethics would be published (*The Ethics of Surgery*, edited by Robert Sade in 2015), followed more recently by the publication of *Practical Ethics for the Surgeon*, edited by Lloyd Jacobs. However, the number of chapters dedicated to the ethical considerations during the arc of a surgical career, particularly in the later stages of a career, in all of these publications combined was minimal [McCullough 1998; Jones 2008; Sade 2015; Jacobs 2019].

COLLECTIVE ADVOCACY: CONTINUOUS, INCREMENTAL IMPROVEMENT

We shall have no better conditions in the future if we are satisfied with all those which we have at present. —Thomas Edison

The lack of clarity regarding the ethics of continuous, incremental improvement in technical disciplines was illustrated by a discussion during a visit that I, accompanied by several of my surgical residents, made to the Kennedy Institute of Ethics at the invitation of Dr. Pellegrino around 2001. I described a common hypothetical scenario to the assembled group of ethicists, which was that I might have been advised by a colleague that I should try a smaller suture than I ordinarily used for my next coronary artery bypass operation, given that my friend knew my practice and thought that I would like this minor “tweak” to my usual practice. I asked the group of medical ethicists participating in this visit if they thought that I needed to seek permission from my next patient prior to using this slightly different suture. To a person, these ethicists declared that I should ask, explicitly, for the “informed consent” of the patient for this small variation of my usual technique. I concluded that these ethicists were indeed “medical ethicists” but not “surgical ethicists,” as virtually all surgeons would agree that seeking this permission would be unnecessary. Furthermore, I believed then, and continue to believe, that our patients would not only think that such a discussion would be superfluous and even distracting but that they would actually expect that this type of small, incremental improvement would be a consistent part of “continuous quality improvement” [Walton 1986].

My residents and I left this meeting concerned that a gulf remained between us, as surgeons, and our medical colleagues in the realm of medical and surgical ethics. However, I did maintain my relationship with Dr. Pellegrino via exchanged notes, written and e-mailed, over the ensuing years. I also invited him to be the Invited AOA Lecturer at the University of Virginia in 2004, an invitation he graciously accepted.

The current interest in medical ethics focuses on moral dilemmas in individual cases but says little about collective responsibility. —Edmund Pellegrino, MD

About 10 years after our earlier meeting at the Kennedy Institute of Ethics, Dr. Pellegrino and Dr. Lynt Johnson, Chair of Surgery at Georgetown University, in 2010, invited me to give the annual Pellegrino Lecture in Medical Ethics, sponsored by the Kennedy Institute of Ethics, an invitation that I was honored to accept. In that lecture, I recounted the evolution of my thinking about surgical ethics, inspired and guided, at least to a degree, by Dr. Pellegrino, as well as others dedicated to the examination of the ethics of action in medicine. In this address, I proposed that the ethics of action in medicine and surgery included the following principles:

- All actions taken by humans are inevitably imperfect.
- Every proceduralist must always be as prepared as possible.
- There will always be a learning curve for medical proceduralists.
- These learning curves may be biphasic, balancing the early accrual of technical expertise with an ongoing accumulation of wisdom and judgment.
- Surgical outcomes are dependent more on judgment than on technique [Spencer 1979].
- There is tacit acknowledgment that there will always be someone, somewhere who is better than you are but that it is often impractical to send the patient to another practitioner in a particular case.
- Small changes in technique are not only accepted but are expected by our public, the patients, and their families.
- There must be continuous analysis of results, which has been described as having a “practical minded obsession” with the possibility and consequence of failure [Tribble 2016a].
- And, finally, these principles could be described as maintaining a collective advocacy, or a collective responsibility, for all of the patients that an individual practitioner would care for during the long trajectory of a career in medicine and surgery.

This presentation was well received by this audience, it seemed. However, Dr. Pellegrino continued to maintain a “bit of distance” between his views of medical ethics and my views of surgical ethics, though he grudgingly accepted my assertion that my interpretation of his principle of “collective advocacy” could have at least some validity in the realm of procedurally based disciplines.

In summary, it seems fair to assert that all practitioners must focus, virtually completely, on the patient being cared for in the moment, while also recognizing a responsibility to all patients for whom they will care during their careers, who will, by definition, have one thing in common, which is that specific practitioner.

A SENSE OF WHERE YOU ARE: LATER CAREER REFLECTIONS

Can I sail through the changing ocean tides?

Can I handle the seasons of my life? —Stevie Nicks, “Landslide,” Fleetwood Mac

Although there are mandatory retirement rules in some occupations, such as commercial airline pilots, the decision about when a surgeon should “cut back” on his or her practice, or fully retire, is generally left to the discretion of the individual surgeon. However, while it is apparent that all humans lose some of their physical skills, stamina, and mental acuity with age, there has not been much guidance in the surgical literature addressing these issues. In fact, these skills do decline, perhaps significantly earlier than many realize. Lazar Greenfield, in an address to the International Society for Cardiovascular Surgery over 20 years ago, reviewed the available information regarding age-related declines in vision, stamina, short-term recall, reasoning, and visuospatial ability, noting that many of these capacities begin to decline at a point that might be considered “midcareer” for most physicians [Greenfield 1994].

I used to hear that surgery is a contact sport. As I have gotten older I have come to the realization that this contact has actually been between me and the floor! —Doug Mathisen, MD

It has often been said that most who are engaged in any sort of physical activity, including surgery, will end up with a “rate-limiting step,” which may include loss of visual acuity, neck and back discomfort, or joint deterioration. Thus, it is apparent that there will come a time, for one reason or another, for each surgeon or proceduralist, when one’s “collective responsibility” will dictate that it is time to “step back.”

Take this badge off of me. I can’t use it anymore.

It’s gettin’ dark, too dark to see. I feel I’m knockin’ on heaven’s door. —Bob Dylan, “Knockin’ on Heaven’s Door,” 1973

It is surely possible for surgeons to fail to recognize what most colleagues and even patients would agree would be a time to cut back on their practices. A classic example of this apparent lack of insight was the assertion made by Dr. Michael DeBakey, at the age of 91, that “I would not mind being operated on by a surgeon of 91” [Blasier 2009]. One hopes that this quip was made in jest. Perhaps it would be fair to say that one needs to be aware of the inflection point on the “career curve” (Figure 5).

A man’s got to know his limitations. —Clint Eastwood as Dirty Harry in *Magnum Force*, 1973

One of my favorite surgical mentors, even relatively early in his career, told me that he had personally witnessed older surgical colleagues who continued to practice long after it was apparent to others that they were in decline, in one way or another. He had concluded that, since it was evident that one might not be able to accurately judge this loss of capacity for oneself, he

would pick an age at which he would cut back on his own practice. He stuck with his plan and retired from his clinical practice at his previously chosen time, at the age of 63.

In many ethical quandaries, good ethics starts with good facts. —Robert Sade

In the context of “good facts,” there is a new initiative of the Society of Thoracic Surgeons (STS), led by David Shahian and other STS database experts, designed to provide feedback on an individual surgeon’s performance. This program, when fully instituted, will allow surgeons to accurately assess their own personal risk-adjusted outcomes (in addition to the outcomes of a group or an institution). In fact, published information suggests that experienced surgeons can have results that rival those of their younger, less-experienced colleagues [Waljee 2006]. However, it does seem likely that accurate, timely, and specific information will enhance the ability of individual surgeons to make reasonable decisions about cutting back on their practices in various ways [Shahian 2018].

John Wooden was a better coach at 55 than he was at 50. And, he was a better coach at 60 than at 55. He’s a true example of a man who learned from day one to day last. —Pete Newell (describing the Hall of Fame former UCLA coach)

However, cutting back on the most demanding aspects of a surgical practice certainly does not preclude one from continuing to be active in less demanding pursuits, such as first assisting other surgeons, working in vein or wound clinics, teaching, research, and participating in medical administration. There is little doubt that the seasoned surgeon will have wisdom accrued from a lifetime of experience that could be applied to benefit others.

CONCLUSIONS: INCREMENTS AND DECREMENTS

We still need physicians who voluntarily, consciously, and sincerely impose on themselves a higher degree of self-effacement than is customary in other callings. —Edmund Pellegrino, MD

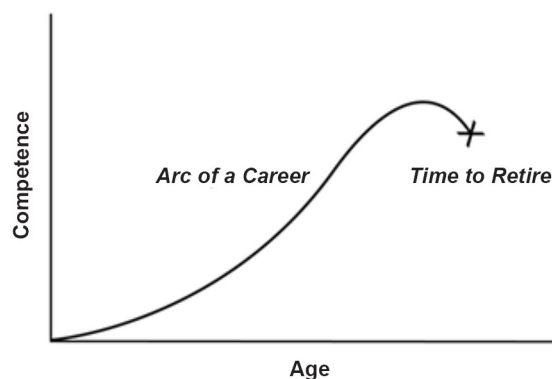


Figure 5. The arc of a career.

After my nearly 50 years “behind the mask,” it is obvious that change is necessary and inevitable. However, the ubiquity of change does require that we, as physicians and surgeons, manage it throughout our careers, with hope of progress, in a manner that requires an ethical approach both to the increments of change as well as to the eventual and inevitable decrements in capacity.

ACKNOWLEDGMENT

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